

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1-11 (Cancelled)

12. (New) Apparatus for filtering data symbols for a decision based data processing system, the apparatus comprising:

- (a) a buffer store operable to buffer-store a sequence of n sequentially received data symbols, wherein $n \geq 3$;
- (b) an n th-order median filter operable to calculate the minimum interval between each of the n buffer-stored data symbols and a plurality of nominal data symbols, the n th-order median filter further operable to filter out one data symbol from the n buffer-stored data symbols, wherein the calculated minimum interval for the filtered out one data symbol has a mean value for the n calculated minimum intervals.

13. (New) The apparatus of claim 12 wherein the median filter comprises

- (b1) a plurality of calculation circuits, each calculation circuit operable to calculate a minimum interval between one of the n buffer-stored data symbols and the plurality of nominal data symbols;

- (b2) a control circuit including (i) a sorting circuit for sorting the calculated minimum intervals according to their value and (ii) a selection circuit for selecting a mean minimum interval from the sorted minimum intervals; and
- (b3) a multiplexer operable to deliver the buffer-stored data symbol associated with the selected mean minimum interval to the decision based data processing system.

- 14. (New) The apparatus of claim 12 wherein the buffer store is a FIFO register.
- 15. (New) The apparatus of claim 12 wherein n is an odd number.
- 16. (New) The apparatus of claim 15 wherein the median filter is a third-order median filter.
- 17. (New) The apparatus of Claim 15 wherein the median filter is a fifth-order median filter.
- 18. (New) The apparatus of claim 13 wherein the decision based data processing system is a clock phase detector.
- 19. (New) The apparatus of claim 13 wherein the decision based data processing system is a carrier phase detector.

20. (New) The apparatus of claim 13 wherein the decision based data processing system is an equalizer.
21. (New) The apparatus of claim 12 wherein the plurality of nominal data symbols are stored in a register which is programmable.
22. (New) The apparatus of claim 12 where the mean minimum interval is a median minimum interval.
23. (New) A method for filtering data symbols for delivery to a decision based data processing system comprising:
- (a) buffer-storing a sequence of n sequentially received data symbols, wherein $n \geq 3$;
 - (b) calculating the minimum intervals between the buffer-stored data symbols and a plurality of predetermined nominal data symbols;
 - (c) sorting the minimum intervals according to their value;
 - (d) selecting a mean minimum interval from the group of sorted minimum intervals;
 - (e) outputting the buffer-stored data symbol associated with the selected minimum interval to the decision based data processing system.
24. (New) The method of claim 23 wherein the step of selecting a mean minimum interval comprises determining the median minimum interval.

25. (New) The method of claim 23 wherein a multiplexer is provided for outputting the buffer-stored data symbol associated with the selected minimum interval to the decision based processing system.
26. (New) The method of claim 23 wherein a FIFO register is used for buffer-storing the sequence of n sequentially received data symbols.
27. (New) The method of claim 23 wherein n is an odd number.
28. (New) The method of claim 23 wherein the decision based processing system is a clock phase detector.
29. (New) The method of claim 23 wherein the decision based processing system is a carrier phase detector.
30. (New) The method of claim 23 wherein the decision based processing system is an equalizer.
31. (New) The method of claim 23 wherein the plurality of predetermined nominal data symbols are stored in a register which is programmable.

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Conclusion

Applicant respectfully requests entry of the amendment and favorable consideration of the application.

A prompt and favorable action on the merits is requested.

Respectfully Submitted,

A handwritten signature in black ink that reads "Russ Fowler" with a stylized flourish at the end.

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Russell E. Fowler
Attorney for Applicants
Attorney Registration No. 43,615
Maginot, Moore & Beck
Bank One Center Tower
111 Monument Circle, Suite 3000
Indianapolis, IN 46204-5115
Telephone: (317) 638-2922